

REMARKS

The Election of Species Requirement dated February 6, 2007, has been received and carefully noted. The above amendments and the following remarks are being submitted as a full and complete response thereto.

Claims 1-53 are pending. Claims 11, 12, 15, 17, 22, and 26-52 are withdrawn. Claims 14, 16, and 19 are amended and claim 53 is added. The amendments are supported by the originally filed specification and claims. In particular, the amendments to claims 14, 16, and 19, and claim 53 are supported, for example, by originally filed claims 16 and 19. No new matter is added.

In response to the Election of Species Requirement, the Applicants hereby provisionally elect the carrier protein oleosin (e.g., of present claims 14 and 16) and the regulatory sequence napin (NAP) (e.g., of present claim 19) **with traverse**. Applicants respectfully submit that present claims 1-10, 13-14, 16, 18-21, and 23-25 and 53 read on the provisionally elected species. Applicants reserve the right to file one or more divisional applications to the non-elected subject matter.

In particular, the Applicants respectfully traverse on the grounds that it would not constitute an undue burden to examine the carrier proteins oleosin, caleosin, and steroleosin of present claim 14 with the regulatory sequences of a napin (NAP) or a chimeric (HYB) promoter of present claims 18-19. The carrier proteins oleosin, caleosin, and steroleosin of present claim 14 are intracellular trafficking proteins, which accumulate in plant cells in the membranes of oil bodies, the lipid storage organelles of plant tissues.

See, for example, the first full paragraph on page 14 of the specification, which discloses

that these three proteins are potentially useful for increasing the amino acid content in oil bodies due to the similar way they accumulate in oil bodies. An oil body consists of a triacylglyceride matrix surrounded by a monolayer of phospholipids embedded with abundant oleosins and some minor proteins, e.g., caleosin and steroleosin.

As shown in Lin et al., *Plant Physiol.*, 128(4):1200-1211 (2002), attached, a steroleosin gene is transcribed along with oleosin and caleosin genes during seed maturation when oil bodies are actively assembled. The same observation has been made in maturing sesame seeds in western blot analysis. See, for example, Chen et al., *Plant Cell Physiol.*, 39:935-941 (1998), attached. These proteins have been shown to be similar in structure, they all comprise a hydrophobic anchoring segment, which directs the proteins in the membranes of oil bodies.

The performance of oleosin, caleosin or steroleosin as carrier proteins to enable targeted expression of an amino acid enriched protein in an oil body is important to the presently claimed invention, and not the function in oil bodies of the proteins in particular. The accumulation of these proteins into oil bodies is generally known to those of skill in the art.

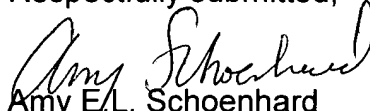
Further, the napin (NAP) and chimeric (HYB) regulatory sequences of present claim 19 are structurally and functionally similar. As disclosed in Example 16 of the present specification, the HYB promoter contains the enhancer region of the Cauliflower mosaic virus 35S (CaMV35S) promoter upstream of the napin (NAP) promoter sequence. Therefore, both the NAP and HYB regulatory sequences contain the entire region of the NAP promoter.

Accordingly, for at least the above reasons, Applicants respectfully request withdrawal of this election of species requirement and prosecution of the carrier proteins oleosin, caleosin, and steroleosin of present claim 14 and the regulatory sequences NAP and HYB of present claim 19. Applicants respectfully submit that such an election would read on present claims 1-10, 13-14, 16, 18-21, 23-25, and 53, related to a method for increasing the content of one or more amino acids in oil bodies in plant species (i.e., incorporating Applicants' previous elections).

For at least the above reasons, reconsideration and withdrawal of the Election of Species Requirement, and consideration and allowance of the present claims, is respectfully requested.

Please charge any fee deficiency or credit any overpayment with respect to this paper to Deposit Account Number 01-2300, referencing Attorney Docket Number **108306-00024**.

Respectfully submitted,



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Enclosures: Petition for Extension of Time (one month)
Information Disclosure Statement
PTO Form SB/08b
References (2)
Claims Transmittal Form